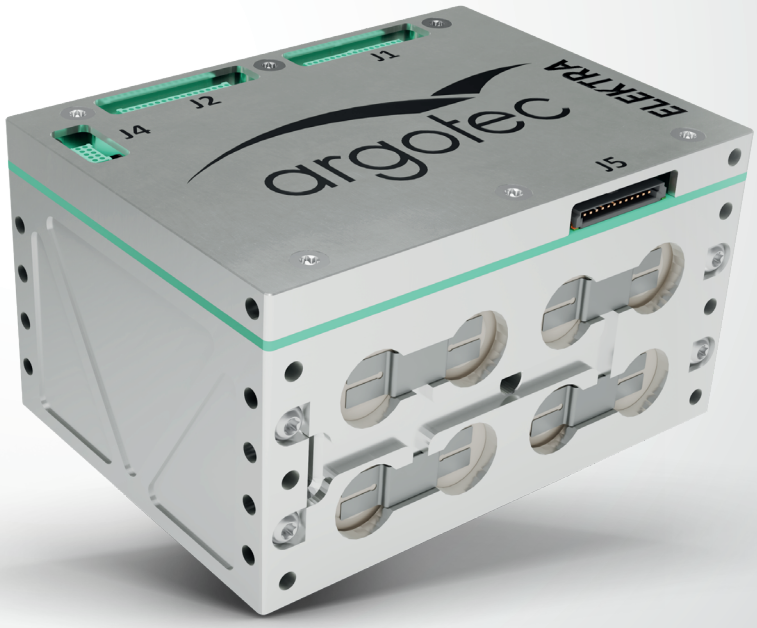
ARGOTEC PRODUCTS
DATA SHEET

ELEKTRA BATTERY PACK

Scalable Li-Ion Battery Pack with Integrated Battery Management System (BMS)

ELEKTRA (Enhanced Li-Ion Energy Keeper Targeting Rad-tolerant Applications) is designed to power a wide range of microsatellite platforms. It embeds high-density 18650 Li-Ion cells, an internal heater for thermal management, and a dedicated radiation-tolerant micro-controller.



DESIGNED FOR MULTI-PACK OPERATIONS

ELEKTRA is designed with scalability in mind, providing fully independent modules (each equipped with its dedicated BMS) that can be connected in parallel to increase the overall battery pack capacity.

ELEKTRA architecture is suitable for powering a wide range of small spacecraft and applications, and its modularity can also be leveraged to increase robustness and lifetime.

EQUIPPED WITH AN INTERNAL HEATER FOR THERMAL MANAGEMENT

The ELEKTRA battery module includes an internal heater digitally managed by the embedded radiation-tolerant microcontroller at the heart of the BMS.

The heater operation can be tuned according to mission needs, guaranteeing broad environmental compatibility and minimizing interface requirements towards the platform.

EMBEDS SAFETY MECHANISMS TO EASE INTEGRATION

The ELEKTRA module was developed with safety and mission assurance in mind.

For these reasons, the module embeds multiple mitigation mechanisms against leading hazard causes, requiring little to no additional precautions to be correctly installed and operated.

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TECHNICAL SPECIFICATION

PROCESSING UNIT(S)	ARM radiation-tolerant microcontroller
VOLTAGE AND CURRENT RATINGS	Charge Current: Standard 1.7 A Discharge Current: Standard 0.68 A
CAPACITY	90 Wh
TID RATING	30 krad
DIGITAL I/F	1× CAN I/F 1× UART I/F for programming and debug
AVAILABLE TELEMETRIES	Battery voltage Battery current Cell voltages Cell temperature Balancing status
MASS	590 g
VOLUME	55 × 70 × 96 mm
CONNECTORS TYPE	High-reliability Harwin G125 connectors
QUALIFICATION	TRL 8
CAPABILITIES	Cell Balancing Temperature monitoring and control Battery pack protection

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SPACE FOR AMBITIONS